R307-110 **Due:** June 16, 2011

2. **Title**
General Requirements: State Implementation Plan

3. **A concise explanation of the particular statutory provisions under which the rule is enacted and how these provisions authorize or require the rule:**
R307-110 incorporates by reference the state implementation plan (SIP) allowed under Subsection 19-2-104(3)(e), which allows the Air Quality Board to prepare a state plan for the prevention, abatement and control of air pollution. Clean Air Act Section 110(a)(1) (42 U.S.C. 7410(a)(1)) requires that each state adopt and submit to EPA a plan providing for implementation, maintenance and enforcement of each health standard promulgated by EPA. If a state fails to do so, EPA is to issue a federal implementation plan in its place, and other federal sanctions also would apply.

4. **A summary of written comments received during and since the last five-year review of the rule from interested persons supporting or opposing the rule:**
R307-110 has been amended twice since its last five-year review. FIRST AMENDEMENT: DAR No. 29001, effective 3/9/2007. The following 14 comments were received on this amendment. COMMENT 1 (EPA): Page 1, footnote 1: There is a typographical error - the correct date for the referenced EPA guidance document is May 20, 2005 and not May 30, 2005. STAFF RESPONSE. Staff agreed. The date was changed to May 20, 2005. COMMENT #2 (EPA): Page 5, paragraph under "Point Source Emissions." This paragraph needs to be clarified: The third sentence indicates that "The 2002 emissions inventory for stationary point sources is based on actual activity levels during the peak ozone season and reflects estimated actual emissions." We suggest the State supplement this statement by using information from the first paragraph of section 3.3.1 of the TSD, which further describes that actual annual emission inventory data were used from applicable facilities (to meet the triennial emissions reporting requirement of EPA's Consolidated Emissions Reporting Rule or CERR) and that these emission figures were then converted from tons per year to tons per day along with the application of rule effectiveness. STAFF RESPONSE. Staff agreed. The paragraph under "Point Source Emissions" on page 5 was changed to read: The 2002 emissions inventory for stationary point sources is based on actual activity levels during the peak ozone season and reflects estimated actual emissions. Actual annual emission data were used from applicable facilities to meet the triennial emissions reporting requirement of EPA's Consolidated Emission Reporting Rule (CERR). These emissions were then converted from tons per year to tons per day and adjusted to reflect current rule effectiveness. COMMENT #3 (EPA): Page 9, Figure 3: Typographical error in the title - 2018 should be 2014. STAFF RESPONSE. Staff agreed. The title of figure 3 was changed to 2014. COMMENT #4 (EPA): Page 10, Figure 5: Typographical error in the title – 2018 should be 2014. STAFF RESPONSE. Staff agreed. The title of figure 5 was changed to 2014. COMMENT #5 (EPA): Page 16, Section 5.a: The introductory statement reads, "The State certifies that all existing RACT controls required in the 1981 Ozone SIP and 1-hour maintenance plan dated September 9, 1998 will remain in effect after approval of this SIP revision." Similarly, referring to the NO_x RACT requirements for utility boilers in the September 9, 1998 1-hour maintenance plan, the introductory language under Section 5.b reads, "These same requirements remain in place and are valid for the 8-hour standard." Subsequent language under Sections 5.a and 5.b seems to undercut these clear statements. For example, for Hill Air Force Base EPA approved various approval orders into the SIP to ensure that RACT for the base would be enforceable. Section 5.a.(3)(b) on page 17 of the draft maintenance plan refers to MACT standards and state rules as constituting RACT. The draft plan also refers to MACT for Olympia

Sales, but EPA also incorporated the approval order for Olympia Sales into the SIP. It is not clear whether the State wants to remove the Olympia Sales approval order from the SIP. We have similar questions regarding Gadsby and Kennecott's Utah Power Plant, as well as stationary source control requirements contained in the EPA-approved PM_{10} SIP. The maintenance plan must clearly indicate which control requirements from the EPA approved SIP the State intends to retain and which control requirements the State proposes to delete. To the extent the State proposes to delete control requirements from the EPA-approved SIP, the State will need to provide an analysis showing that deletion will be consistent with sections 110(1) and 193 of the CAA. See 40 CFR 51.905(a)(4) and EPA's May 20, 2005 section 110(a)(l) maintenance plan guidance, response to question 10. Regarding section 110(1), the analysis should not be limited to 8-hour ozone, but should also consider potential effects on other pollutants. In addition, the State will need to retain any deleted control requirements on the list of potential contingency measures in the 8-hour ozone maintenance plan. STAFF RESPONSE. The State of Utah is not removing any approved RACT measures found in any previous maintenance plan or SIP and is not decreasing the level of control. The specifics for each source are described below. a. Hill Air Force Base. RACT for HAFB was determined to be the level of control that existed at the base in 1995. EPA has interpreted this to mean that every approval order condition that existed in 1995 is a SIP condition that would require a SIP modification before a change could be made. This is an unworkable process, and was not what had been intended when the maintenance plan was adopted. The new plan describes RACT in a simpler way that is more stringent than the requirements that existed in 1995. Explanatory language has been added to the plan to explain why the change was made, and how the new way of describing RACT is more stringent than the previous plan. b. Olympia Sales. As explained in the plan, Olympia Sales is no longer a major point source because of emission reductions that were required by the MACT for wood furniture (40 CFR 63 Subpart JJ), which is a more stringent requirement than RACT (see note on page 17 of the maintenance plan). c. Gadsby. As explained in the plan, the emission limits that were established for the PM_{10} SIP were determined to meet RACT for the ozone plan. The new PM_{10} maintenance plan that was adopted in 2005 established a 24-hour plantwide NO_x limit for the Gadsby plant. This limit was based on an approval order that was issued in 2002 to allow the addition of three new natural-gas-fired turbines to the plant. Clarifying language has been added to the plan to explain that the current emission limitation for Gadsby is equivalent to the level that was determined to meet the RACT requirement in the old ozone maintenance plan. d. Kennecott's Utah Power Plant. As described in the maintenance plan, the previous RACT determination for this plant has been retained. Clarifying language has been added to the plan to specify the specific limitations for the four boilers that were established in the previous implementation plan. e. NO_x requirements in the PM_{10} SIP. The old ozone maintenance plan referenced the NO_x emission reductions that had occurred as a result of the PM_{10} SIP as further NO_x controls that contributed to maintenance of the ozone standard. These were not considered RACT, but were part of an overall demonstration that NO_x had been controlled in the area. EPA approved a NO_x RACT exemption for all sources except for the Kennecott Power Plant and the Gadsby Power Plant because the ozone nonattainment area was already meeting the ozone standard. In addition, modeling had demonstrated that the Salt Lake Valley was VOC limited and that NO_x reductions would not be the best approach in this area. The PM_{10} maintenance plan has since been amended to focus the SIP limits on the larger emission units that were important for the PM_{10} attainment/maintenance demonstration. The requirements for smaller sources were maintained in approval orders. Any future changes at these sources will be subject to Utah's new source review program that requires BACT as well as emission offsets for these smaller sources. The PM_{10} maintenance plan demonstrates the effectiveness of these changes. COMMENT #6 (EPA): Page 20, under "Determination of the Contingency Trigger Level and Date," second paragraph, and page 21, under "Timeliness of Contingency Actions," second paragraph: Both of these paragraphs indicate that the contingency trigger date is the date that the AQB determines

that one or more contingency measures should be implemented. As indicated in our guidance, the trigger for implementation of contingency measures should, "at a minimum," be upon a monitored violation of the 8-hour ozone NAAQS. The proposed maintenance plan language does not meet this standard and must be changed to indicate that the date a monitored violation occurs is the trigger date for implementation of contingency measures. Our guidance further indicates that the schedule for adoption and implementation of contingency measures should be as expeditious as practicable, but no longer than 24 months. Also on page 21, in the same paragraph noted, last sentence, the proposed language reads, "Unless otherwise directed, the necessary contingency measures will be adopted and implemented within eighteen months of the trigger date." The words "Unless otherwise directed" must either be removed or changed to read, "Unless a shorter period is prescribed." This change is necessary to ensure that adoption and implementation of contingency measures is not extended beyond 24 months. STAFF RESPONSE. Staff agreed. Wording in sections 6.b. and 6.c. was modified to more closely follow the guidance provided by EPA. Specifically the first paragraph in section 6.c. now reads, "The date that certified data shows that a monitoring violation has occurred will be considered the contingency trigger date." Also the words "Unless otherwise directed" were deleted from the last sentence of the second paragraph of 6.c. COMMENT #7 (EPA): Page 21, under "Possible Contingency Measures": Of the seven identified contingency measures, five of these are voluntary and are unlikely to produce prompt, enforceable emission reductions to address a violation of the 8-hour ozone NAAQS. EPA's May 20, 2005 guidance document entitled "Maintenance Plan Guidance Document for Certain 8-hour Ozone Areas Under Section 110(a)(l) of the Clean Air Act" states on page 5; "Contingency Plan - The State must develop a contingency plan that, at a minimum, will ensure that any violation of the 8-hour ozone NAAQS is promptly corrected." Further, in the response portion to question number 11 of our May 20, 2005 guidance, the first sentence states "The Phase I Rule requires the section 110(a)(1) maintenance plan for scenario B and C areas to include contingency provisions, as necessary, to promptly correct any violation of the NAAQS that occurs (51.905(a)(3)(iii) and (4)(ii))." Voluntary measures, although beneficial, may or may not receive wide implementation. Therefore, the necessary emission reductions to promptly correct a violation of the 8-hour ozone NAAQS may not occur. The State should only include contingency measures that would be of a regulatory nature such as, but not limited to; (1) increase the stringency of the cut points in the motor vehicle inspection and maintenance (I/M) programs, (2) revert back to an annual test rather than a biennial test in the I/M programs, and (3) evaluate and require Best Available Control Technology (BACT) for major sources of VOCs rather than only requiring RACT. STAFF RESPONSE. The State feels that, because of the length of time required to develop rules and install controls, a certain amount of flexibility must be maintained in the choice of contingency measures. Explanatory language has been added to Section 6.d. of the maintenance plan that describes how the state intends to promptly correct any future violation(s) of the 8-hour ozone standard. The State is committed to quickly apply appropriate controls to meet the NAAQS. COMMENT #8 (EPA): Page 23, under 7.a: The maintenance plan needs to be more specific than just say the inventories will be updated "periodically." If you will continue to follow a three-year schedule, the maintenance plan should indicate that the inventories will be updated at least once every three years. STAFF RESPONSE. Staff agreed. The third sentence in section 7.a. has been changed to read: To verify continued maintenance, the State will update the VOC and NO_x emission inventories for Salt Lake and Davis Counties at least once every three years. COMMENT #9 (EPA): Page 23, under 7.b, second sentence: As reflected in our May 20, 2005 guidance, response to question 9, Section 110(a)(1) maintenance plans remain in effect indefinitely, not just for 10 years. The language of the maintenance plan must be changed to indicate that the maintenance plan will remain in effect even after 2014. The maintenance plan can only be modified or removed from the SIP through the SIP revision process, with EPA's approval. STAFF RESPONSE. Staff agreed. The last two sentences in section 7.b. were changed to read: It is understood that maintenance plans approved

under section 110(a)(1) remain in effect until amended or repealed. It is further understood that contingency measures approved as part of 110(a)(1) maintenance plans will remain in effect and that they could still be triggered if an area violates the 8-hour standard after 2014. COMMENT #10 (Wasatch Clean Air Coalition): Please consider adding tracking and developing strategies to reduce highly reactive VOC's. According to EPA, "an approach that discriminates between VOCs based on reactivity is likely to be more effective and efficient. In particular, reactivity based approaches are likely to be important in areas for which VOC control is a key strategy for reducing ozone concentrations. Such areas include: Urbanized or other NO_X-rich areas where ozone formation is particularly sensitive to changes in VOC emissions." This SIP revision is an effort to meet federal NAAQS requirements. However, California recently calculated that, "An estimated 630 deaths [in California] (probable range: 310 to 950) avoided annually if the 8-hour standard of 0.070 hour is attained." A simple comparison of population indicates that 40 Utahns could be saved from premature death if Utah met the standards California is proposing. Other benefits would be decreased hospital and emergency room visits, reduced school absenteeism and new cases of asthma. Efforts to reduce ozone below current NAAQS will serve all Utahns, and represents a worthy goal for DAQ's efforts. Tracking and developing strategies to reduce highly reactive VOC's is one action Utah could pursue to reduce ozone levels in Utah, even without the trigger of a NAAQS violation. STAFF RESPONSE . This comment references EPA's Interim Guidance on Control of Volatile Organic Compounds in Ozone State Implementation Plans (70FR 54046, September 13, 2005). The guidance summarizes preliminary scientific findings and encourages innovative state applications of reactivity information in the development of VOC control measures. It applies to states or areas currently in an ozone non-attainment status. Utah is in an attainment status. In this document, EPA states that, "The photochemical reactivity of a compound is a measure of its potential to form ozone. By distinguishing between more reactive and less reactive VOCs, it should be possible to decrease ozone concentrations further or more efficiently than by controlling all VOCs equally." It goes on to say that, "Discriminating between VOCs on the basis of their contributions to ozone formation, or reactivities, is not straightforward. Reactivity is not simply a property of the compound itself; it is a property of both the compound and the environment in which the compound is found. The absolute reactivity of a single compound varies with localized VOC-NO_x ratios, meteorological conditions, the mix of other VOCs in the atmosphere, and the time interval of interest." Currently, research in both Texas and California is beginning to develop innovative VOC reactivity information that may lead to future control measures. Utah intends to monitor this research and to apply any findings that might be applicable if future VOC reductions are needed. The ozone RACT rules have been an effective part of the overall plan to bring the area into attainment. If future ozone problems occur then all of the ozone control strategies will be reviewed to identify the most effective ways to further reduce VOC emissions. No changes to the rules have been made at this time to increase the stringency of the rules. COMMENT #11 (EPA): Volume 2, section 3.1.2.2.22, "Fuel Distribution", untitled table at the top of page 3.1.2.2.22-3: The value for the conventional gasoline Reid Vapor Pressure "RVP" listed in this table for the Salt Lake and Davis Counties maintenance area for a summer time emission inventory is shown as 10.6. This is incorrect as by regulation, the summer time RVP for conventional gasoline in the Salt Lake Davis Counties maintenance area is 7.8 psi. STAFF RESPONSE. All refineries in Utah currently sell gasoline in Salt Lake and Davis Counties during the summer months with a Reid vapor pressure (RVP) of 7.8 psi. The value for Reid vapor pressure in the untitled tables at the top of pages 3.1.2.2.22-3 and 3.1.2.2.22-4 are for calculation of annual emissions. The ozone season RVP discussion begins on page 3.1.2.2-4. In this section the RVP has been changed to 7.8 psi. Calculations that were made using a RVP of 10.6 psi have been revised using the value of 7.8 psi. It should be noted that the original calculations using the 10.6 psi RVP also used an "average annual temperature." The revised calculations using the 7.8 psi RVP incorporated the "peak ozone season day" temperature as defined in volume IV of the mobile source document, "Procedures for

Emission Inventory Preparation." As a result of these changes, the "Fuel Distribution with RE" category in the area source inventory, changed by a small fraction. These corrected values for the area source category "fuel distribution with RE" have been reflected in the area source data and the associated VOC demonstration graphs. COMMENT #12 (EPA): Volume 2, section 3.1.2.2.22, "Fuel Distribution", untitled table at the top of page 3.1.2.2.22-4: The value for the conventional gasoline Reid Vapor Pressure "RVP" listed in this table for the Salt Lake and Davis Counties maintenance area for a summer time emission inventory is shown as 10.6. This is incorrect as by regulation, the summer time RVP for conventional gasoline in the Salt Lake Davis Counties maintenance area is 7.8 psi. Also, two column headings in this table may have typographical errors in that they indicate emission factors with and without "Stage II." As Utah does not implement Stage II vapor recovery, these column labels should likely be "Stage I." STAFF RESPONSE. See response to comment #11. The incorrectly labeled column headings have been changed to read with and without Stage I. COMMENT #13 (EPA): Volume 2, section 3.1.2.2.22, "Fuel Distribution", "111. Sum the Vapor Loss Factors - - - - Untitled table at the bottom of page 3.1.2.2.22-10: The value for the conventional gasoline Reid Vapor Pressure "RVP" listed in this table for the Salt Lake and Davis Counties maintenance area for a summer time emission inventory is shown as 10.6. This is incorrect as by regulation, the summer time RVP for conventional gasoline in the Salt Lake Davis Counties maintenance area is 7.8 psi. Also, column headings in this table may have typographical errors in that they indicate emission factors with and without Stage II, shown as "with S2VR" and "w/o S2VR." As Utah does not implement Stage II vapor recovery, these column labels, and associated emission factors, should likely be "Stage I." STAFF RESPONSE. Similar to response to comment #11. In this case the table on page 3.1.2.2.22-10 is addressing annual emissions. The ozone season RVP discussion begins on page 3.1.2.2.22-17 and the ozone season table with the 7.8 psi RVP is on page 3.1.2.2.22-19. The incorrectly labeled column headings have been changed to read "with S1VR" and "without S1VR." COMMENT #14 (EPA): Volume 2, section 3.1.2.2.38, "Surface Coatings Traffic Markings": We are curious as to why actual lane-mile data were used from 1995 through 1998, but actual data from 2002 were not considered. STAFF RESPONSE. Staff used actual lane-miles from 1995 through 1998 because that is what DAQ was provided by the Utah Department of Transportation (UDOT). In 2002, UDOT did not provide actual lane-miles. COMMENT #15 (EPA): Volume 5, "Projections", section 3.1.3.1.22, "Fuel Distribution", untitled table at the top of page 3.1.3.1.22-3: The value for the conventional gasoline Reid Vapor Pressure "RVP" listed in this table for the Salt Lake and Davis Counties maintenance area for a summer time emission inventory is shown as 10.6. This is incorrect as by regulation, the summer time RVP for conventional gasoline in the Salt Lake Davis Counties maintenance area is 7.8 psi. Also, same comment for the table at the top of page 3.1.3.1.22-4, and two column headings in this table may have typographical errors in that they indicate emission factors with and without "Stage II." As Utah does not implement Stage II vapor recovery, these column labels should likely be "Stage I." STAFF RESPONSE: Similar to response to comment #11. In this case the value for Reid vapor pressure in the untitled tables at the top of pages 3.1.3.1.22-3 and 3.1.3.1.22-4 are for calculation of annual emissions. The ozone season RVP discussion begins on page 3.1.3.1-4. The incorrectly labeled column headings for the table at the top of page 3.1.3.1.22-4 have been changed to read with and without Stage I. COMMENT #16 (EPA): Volume 5, "Projections", section 3.1.3.1.38, "Surface Coatings Traffic Markings": We are curious as to why actual lane-mile data were used from 1995 through 1998, but actual data from 2002 were not considered. STAFF RESPONSE: See response to comment #14 above. SECOND AMENDEMENT: DAR No. 29227, effective 2/9/2007; no comments were received on this amendment. No other comments have be received about this rule since its last review.

5. A reasoned justification for continuation of the rule, including reasons why the agency disagrees with comments in opposition to the rule, if any:
Clean Air Act Section 110(a)(1) (42 U.S.C. 7410(a)(1)) requires that each state adopt and submit to EPA a plan providing for implementation, maintenance and enforcement of each health standard promulgated by EPA. If a state fails to do so, EPA is to issue a federal implementation plan in its place, and other federal sanctions also would apply. R307-110 incorporates by reference the state implementation plan (SIP) allowed under Subsection 19-2-104(3)(e).

6. **key words:** air pollution, PM10, PM2.5, ozone

7. **attach document.**

Agency head or designee, and title **Date**

M. Cuch Hy 2-23-07